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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,254	09/26/2003	Jens-Christian D. Meiners	UOM 0275 PUSP	8836
22045	7590	07/10/2008		
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			EXAMINER LEE, EDMUND H	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 07/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/672,254	Applicant(s) MEINERS ET AL.	
	Examiner EDMUND H. LEE	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The phrase "at least one interconnect chemically different from said elastomeric portion" (cl 41, lns 2-3) lack support in the instant disclosure. The phrase is broader than what the instant disclosure supports. The instant specification discloses using metal, but does not disclose using any material that is chemically different.

The phrase "embedding the entirety of said at least one interconnect with said curable resin" (cl 42, ln 2) lacks support in the instant disclosure. There is no clear support for encapsulating the entire interconnects. Fig 3 shows the interconnects encapsulated in the resin, however it does not show whether or not the entire interconnect is encapsulated, i.e. a portion of the interconnect may stick out beyond the resin in order to allow for connection with the metal tube.

Correction is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1791

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-33, 34-37, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer (USPN 4304749) in view of Desmond (USPN 7214348). In regard to claim 21, Bauer teaches the basic claimed process including a fluidic device having at least one interconnect (col 2, lns 28-60; col 5, lns 15-25; fig 1)--body member 12 and cover plate 13 constitute the at least one elastomeric portion and substrate, and passages 14 and 15 constitute two interconnects. It should be noted that the mold cavity of Bauer extends over portions of the body member, the cover plate, and passages (fig 1). Bauer, however, does not teach a microfluidic device. Desmond teaches a microfluidic oscillator, i.e., fluid passages having baffles therein (figs 1-2 and 18). Bauer and Desmond are combinable because they are analogous with respect to fluidic devices, i.e., oscillators. Since it is well-known in the molding art to downscale or miniaturize devices to meet consumer needs, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the microfluidic oscillator of Desmond for the oscillator of Bauer in order to produce microfluidic oscillators with ease and low cost. In regard to claims 22, 24 and 26-29, the use of a specific material is a mere obvious matter of choices dependent on the desired final product and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed materials are well-known in the microfluidic device art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed materials in the process of Bauer in order to form diverse microfluidic devices having varying

Art Unit: 1791

characteristics. In regard to claims 23, 25, and 32-33, such limitations are taught by Bauer (col 2, lns 28-60; col 5, lns 15-25; fig 1). In regard to claims 31-32, Bauer teaches injecting the material into the cavity while the portions are located therein. It is well-known in the molding art that pouring/casting is a substitutable alternative for injecting. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to pour the material into the cavity of Bauer instead of injecting in order to reduce production costs and equipment costs. In regard to claims 34-37, the structure of the claimed products by process claims are taught by the above rejections under Bauer in view of Desmond. In regard to claim 41, the use of a specific material is a mere obvious matter of choices dependent on the desired final product and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed materials are well-known in the microfluidic device art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed materials in the process of Bauer in order to form diverse microfluidic devices having varying characteristics. In regard to claim 42, such design limitation is a mere obvious matter of choices dependent on the desired final product and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed design is well-known in the microfluidic device art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the claimed design into the microfluidic device of Bauer (modified) in

order to form diverse microfluidic devices that can meet the different demands of consumers.

4. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer (USPN 4304749) in view of Desmond (USPN 7214348). In regard to claim 38-40, Bauer teaches the basic claimed process including a fluidic device having at least one interconnect (col 2, lns 28-60; col 5, lns 15-25; fig 1)--body member 12 and cover plate 13 constitute the at least one elastomeric portion and substrate, and passages 14 and 15 constitute two interconnects. It should be noted that the mold cavity of Bauer extends over portions of the body member, the cover plate, and passages (fig 1). Bauer, however, does not teach a microfluidic device. Desmond teaches a microfluidic oscillator, i.e., fluid passages having baffles therein (figs 1-2 and 18). Bauer and Desmond are combinable because they are analogous with respect to fluidic devices, i.e., oscillators. Since it is well-known in the molding art to downscale or miniaturize devices to meet consumer needs, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the microfluidic oscillator of Desmond for the oscillator of Bauer in order to produce microfluidic oscillators with ease and low cost. In regard to claim 39, the use of a specific material is a mere obvious matter of choices dependent on the desired final product and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed material is well-known in the microfluidic device art. Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the claimed material in the process of Bauer in order to form diverse microfluidic devices having varying characteristics. In regard to claim 40, such limitation is taught by Bauer (col 2, lns 28-60; col 5, lns 15-25; fig 1).

5. Applicant's arguments filed 4/11/08 have been fully considered but they are not persuasive. Applicant argues that Bauer does not teach separate steps of forming the elastomeric portion and interconnect. This argument is misplaced because the instant claims are broad enough to be read as simultaneously forming the portion and interconnect. Applicant is reminded that a listing of steps in a method claim does not imply a sequence. Applicant also argues that Bauer does not teach encapsulating the portion on all sides where interconnect is present. This argument is misplaced because Bauer clearly teaches surrounding/encapsulating the portion, interconnect, and substrate with a curable resin. Applicant is reminded that the term encapsulating involves surrounding an article with another material, wherein the material may or not be in contact with the article. Encapsulating does not require direct contact of the encapsulating material and the encapsulant.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following US patents teach the state of the art: 6290791; 2002/0134907; 6548895 and 6443179.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDMUND H. LEE whose telephone number is 571.272.1204. The examiner can normally be reached on MONDAY-THURSDAY FROM 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571.272.1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EDMUND H. LEE
Primary Examiner
Art Unit 1791

EHL

/EDMUND H. LEE/
Primary Examiner, Art Unit 1791

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/672,254	MEINERS ET AL.	
	Examiner	Art Unit	
	EDMUND H. LEE	1791	